


Application. No. 09/892,860

Listing of Claims

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Currently Amended) A process for reducing hair, trash, or fibrous material concentration in a waste water treatment system ~~having a membrane filter~~, the process comprising:

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- a) flowing water to be treated to the waste water treatment system, the waste water treatment system having a membrane filter;
 - b) treating the water in the waste water treatment system and producing a mixed liquor;
 - b)c) removing a portion of the mixed liquor from the waste water treatment system and passing the mixed liquor through a screen to remove hair, trash, or fibrous materials from the mixed liquor; and
 - e)d) flowing the screened mixed liquor to the waste water treatment system,

and wherein the average flow rate of the mixed liquor through the screen is not more than about 1.0 of the average design flow rate of the waste water treatment system.

2. (Original) The process of claim 1 wherein the membrane filter is a hollow fibre membrane filter.


3. (Original) The process of claim 1 wherein the screened mixed liquor is flowed back to an upstream part of the waste water treatment system.

4. (Original) The process of claim 1 wherein a recycle mixed liquor stream is withdrawn from a downstream part of the waste water treatment system and recycled to an upstream part of the waste water treatment system.

5. (Original) The process of claim 4 wherein the screened mixed liquor is flowed back to the recycle mixed liquor stream.

6. (Currently Amended) The process of claim 5 wherein the mixed liquor to be passed through the screen is removed from the recycle mixed liquor stream ~~downstream~~ upstream of where the screened mixed liquor flows back to the recycle mixed liquor stream.

7. (Original) The process of claim 1 wherein the waste water treatment system produces a waste sludge.



8. (Original) The process of claim 7 wherein screenings produced from screening the mixed liquor are flowed to the waste sludge.

9. (Original) The process of claim 7 wherein screenings produced from screening the mixed liquor are disposed of without further biological treatment.

10. (Original) The process of claim 1 wherein a polymer is added to the mixed liquor before passing the mixed liquor through the screen to produce screenings that are a thickened sludge.

11. (Original) The process of claim 1 wherein the average flow rate of the mixed liquor through the screen is about 0.10 to about 1.0 of the average design flow rate of the waste water treatment system.

12. (Original) The process of claim 11 wherein the average flow rate of the mixed liquor through the screen is not more than about half the average design flow rate of the waste water treatment system.

13. (Original) The process of claim 1 wherein the screen size opening is not more than about 1.0 mm.

14. (Original) The process of claim 13 wherein the screen size opening is about 0.25 mm to about 0.75 mm.

15. (Original) The process of claim 14 wherein the screen size opening is not more than about 0.50 mm.

16. (Original) The process of any one of claim 13 to 15 wherein the screen is a rotary drum screen.

17. (Original) The process of claim 16 wherein the screen has a dual sprayer system.

18. (Original) The process of claim 1 wherein the mixed liquor is passed through the screen at a substantially constant flow rate.

19. (Original) The process of claim 1 wherein the mixed liquor is substantially continuously passed through the screen.

20. (Original) The process of claim 1 wherein the mixed liquor is substantially continuously passed through the screen and is passed through the screen at a substantially constant flow rate.

21. (New) A process for reducing hair, trash, or fibrous material concentration in a waste water treatment system, the process comprising:

- a) flowing water to be treated to the waste water treatment system, the waste water treatment system having a membrane filter;
 - b) treating the water in the waste water treatment system and producing a mixed liquor;
 - c) removing a portion of the mixed liquor from the waste water treatment system downstream of the membrane filter and passing the mixed liquor through a screen to remove hair, trash, or fibrous materials from the mixed liquor; and
 - d) flowing the screened mixed liquor to the waste water treatment system upstream of the membrane filter,
- and wherein the average flow rate of the mixed liquor through the screen is not more than about 1.0 of the average design flow rate of the waste water treatment system.

22. (New) The process of claim 21 wherein the membrane filter is a hollow fibre membrane filter.

23. (New) The process of claim 21 wherein a recycle mixed liquor stream is withdrawn from the waste water treatment system downstream of the membrane filter and recycled to an upstream part of the waste water treatment system.

24. (New) The process of claim 23 wherein the screened mixed liquor is flowed back to the recycle mixed liquor stream.

25. (New) The process of claim 24 wherein the mixed liquor to be passed through the screen is removed from the recycle mixed liquor stream upstream of where the screened mixed liquor flows back to the recycle mixed liquor stream.

26. (New) The process of claim 21 wherein the waste water treatment system produces a waste sludge.

27. (New) The process of claim 26 wherein screenings produced from screening the mixed liquor are flowed to the waste sludge.

28. (New) The process of claim 26 wherein screenings produced from screening the mixed liquor are disposed of without further biological treatment.

29. (New) The process of claim 21 wherein a polymer is added to the mixed liquor before passing the mixed liquor through the screen to produce screenings that are a thickened sludge.

30. (New) The process of claim 21 wherein the average flow rate of the mixed liquor through the screen is about 0.10 to about 1.0 of the average design flow rate of the waste water treatment system.

31. (New) The process of claim 30 wherein the average flow rate of the mixed liquor through the screen is not more than about half the average design flow rate of the waste water treatment system.

32. (New) The process of claim 21 wherein the screen size opening is not more than about 1.0 mm.

33. (New) The process of claim 32 wherein the screen size opening is about 0.25 mm to about 0.75 mm.

34. (New) The process of claim 33 wherein the screen size opening is not more than about 0.50 mm.

35. (New) The process of any one of claim 32 to 34 wherein the screen is a rotary drum screen.

36. (New) The process of claim 35 wherein the screen has a dual sprayer system.

37. (New) The process of claim 21 wherein the mixed liquor is passed through the screen at a substantially constant flow rate.

38. (New) The process of claim 21 wherein the mixed liquor is substantially continuously passed through the screen.

39. (New) The process of claim 21 wherein the mixed liquor is substantially continuously passed through the screen and is passed through the screen at a substantially constant flow rate.
